

SEQUENCE LISTING

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<120> Specific Binding Members for Human Transforming Growth Factor Beta:
 Materials and Methods

<130> 213839-00031

<140> To be assigned
 <141> 2003-07-23

<150> 09/054,847
 <151> 1998-04-03

<150> 08/571,755
 <151> 1995-12-13

<160> 125

<170> PatentIn version 3.1

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35 40 45
 Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
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 Val Ser Ser
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 35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

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Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
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 35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Ile Lys Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Gly Glu Tyr Ser Gly Tyr Asp Thr Ser Gly Val Glu Leu
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 20 25 30

Asp Met His Trp Val Arg Gln Pro Pro Ala Lys Gly Leu Glu Trp Val
 35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Ser Lys Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Gly Glu Tyr Ser Gly Tyr Asp Thr Ser Gly Val Glu Leu
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

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 aggttcagcg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct 240
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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Trp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Arg Ala Pro Lys Val Leu Ile
 35 40 45

Tyr Lys Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
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Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
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Tyr Asn Lys Met Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 35 40 45

Pro Pro Lys Leu Leu Ile Asn Trp Ala Ser Thr Arg Glu Ser Gly Val
 50 55 60

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 65 70 75 80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
 85 90 95

Tyr Tyr Ala Thr Pro Leu Thr Phe Gly His Gly Thr Lys Val Glu Ile
 100 105 110

Lys Arg

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 20 25 30
 Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
 35 40 45
 Gly Glu Asn Ser Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
 50 55 60
 Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
 65 70 75 80
 Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Arg Asp Ser Ser Gly Thr His
 85 90 95
 Leu Glu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105 110

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Trp

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Trp

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Trp

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Arg

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Trp

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Trp

<210> 25
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Ala Arg Thr Glu Glu Tyr Ser Gly Phe Asp Ser Thr Gly Glu Asp Val
1 5 10 15

Trp

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Ala Arg Thr Glu Glu Phe Ser Gly Tyr Asp Ser Ser Gly Val Asp Val
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Trp

<210> 27
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<212> PRT
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<400> 27

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Arg

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Trp

<210> 29
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Arg

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1 5 10 15

Trp

<210> 31
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<212> PRT
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<400> 31

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1 5 10 15

Trp

<210> 32
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Trp

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<400> 33

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1 5 10 15

Trp

<210> 34
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<400> 34

Ala Arg Thr Glu Glu Phe Ser Gly Tyr Asp Ser Ser Gly Val Asp Val
1 5 10 15

Trp

<210> 35
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<400> 35

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Trp

<210> 36
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<212> DNA

<213> Human

<400> 36

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<400> 37

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Ala Met His Trp Val Arg Gln Ala Pro Ala Lys Gly Leu Glu Trp Val
35            40            45

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50            55            60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65            70            75            80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85            90            95

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Val Ser Ser Ser Gly
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<212> DNA
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aggttcagtg gcagtggatc tgggacagaa ttcactctca caatcagcag tctgcaacct 240
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<210> 39
<211> 108
<212> PRT
<213> Human

<400> 39

Asp Val Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys Arg
100 105

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<211> 327
<212> DNA
<213> Human

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<210> 41
<211> 109
<212> PRT
<213> Human

<400> 41

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Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala
20 25 30

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ala Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Arg Asp Ser Ser Gly Asn His
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 42
<211> 330
<212> DNA
<213> Human

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<210> 43
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 <213> Human

<400> 43

Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
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Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala
 20 25 30

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
 35 40 45

Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
 50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
 65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Arg Asp Ser Ser Ser Thr His
 85 90 95

Arg Gly Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105 110

<210> 44
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 <212> DNA
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<400> 44

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<400> 45

Glu Val Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Gly Asp Asp
20 25 30

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Leu Leu Ile
35 40 45

Tyr Gly Thr Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Ser Asn Tyr Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Arg Leu Glu Ile Lys Arg
100 105

<210> 46
<211> 321
<212> DNA
<213> Human

<400> 46

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ttctctggct ccagctcagg gaacacagct tccttgacca tcaactggggc tcgggcggaa 240

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<400> 47

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 1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Asn Tyr Tyr Ala
 20 25 30

Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
 35 40 45

Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
 50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Arg Ala Glu
 65 70 75 80

Asp Glu Gly Val Tyr Tyr Cys Asn Ser Arg Asp Ser Ser Gly Ala Val
 85 90 95

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

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<210> 49
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<400> 49

Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
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Thr Val Arg Ile Thr Ser Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Thr
 20 25 30

Asn Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Leu Leu Val Val Tyr
 35 40 45

Ala Lys Asn Lys Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
 50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
 65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys His Ser Arg Asp Ser Ser Gly Asn His
 85 90 95

Val Leu Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 50
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 cctcaggtga gtggatccga attc 144

<210> 51
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<400> 51

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Ala Val Ala Pro Gly Ala His Ser Gln Val Gln Leu Gln Gln Ser Gly
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Ala Lys Gly Pro Arg Ser Pro Ser Pro Gln Val Ser Gly Ser Glu Phe
 35 40 45

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<400> 52
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 ccagtccatg gtggcggcaa gctt 144

<210> 53
 <211> 234
 <212> DNA
 <213> Human

<400> 53
 aagcttcgcc accatgggat ggagctgtat catcctcttc ttggtagcaa cagctacagg 60
 taaggggctc acagtagcag gcttgaggtc tggacatata tatgggtgac aatgacatcc 120
 actttgcctt tctctccaca ggtgtgcact ccgacattga gctcaccag tctccagaca 180
 aagctcgagc tgaaacgtga gtagaattta aactttgctt cctcaattgg atcc 234

<210> 54
 <211> 15
 <212> PRT
 <213> Human

<400> 54

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr
 1 5 10 15

<210> 55
 <211> 8
 <212> PRT
 <213> Human

<400> 55

Gly Val His Ser Asp Ile Glu Leu
 1 5

<210> 56
 <211> 4
 <212> PRT
 <213> Human

<400> 56

Leu Glu Leu Lys
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<210> 57
 <211> 234
 <212> DNA
 <213> Human

<400> 57
 ggatccaatt gaggaagcaa agtttaaatt ctactcacgt ttcagctcga gctttgtctg 60
 gagactgggt gagtcaatg tcggagtgcac cacctgtgga gagaaaggca aagtggatgt 120
 cattgtcacc catatatatg tccagacctc aagcctgcta ctgtgagccc cttacctgta 180
 gctgttgcta ccaagaagag gatgatacag ctccatccca tggtagcgaa gctt 234

<210> 58
 <211> 324
 <212> DNA
 <213> Human

<400> 58
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 atcacttgcc gggcaagtca gggcattgga gatgatttgg gctggatatca gcagaagcca 120
 gggaaagccc ctatcctcct gatctatggc acatccactt taaaaagtgg ggtcccgtca 180
 aggttcagcg gcagtggatc tggcacagat ttcactctca ccatcaacag cctgcagcct 240
 gaagattttg caacttatta ctgtctacaa gattccaatt acccgctcac tttagcgga 300
 gggacacgac tggagattaa acgt 324

<210> 59
 <211> 108
 <212> PRT
 <213> Human

<400> 59

Glu Ile Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Gly Asp Asp
 20 25 30

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Leu Leu Ile
 35 40 45

Tyr Gly Thr Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Ser Asn Tyr Pro Leu
 85 90 95

Thr Phe Gly Gly Gly Thr Arg Leu Glu Ile Lys Arg
 100 105

<210> 60
 <211> 345
 <212> DNA
 <213> Human

<400> 60
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 tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt cgcagggt 120
 ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180
 gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
 ctgcaaattgg acagcctgag agccgaggac acggccgtgt attactgtgg aagaacgctg 300
 gagtctagtt tgtggggcca aggcaccctg gtcaccgtct cctca 345

<210> 61
 <211> 115
 <212> PRT
 <213> Human

<400> 61

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
 20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Arg Thr Leu Glu Ser Ser Leu Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 62
 <211> 330
 <212> DNA
 <213> Human

<400> 62
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 acatgccaaag gagacagcct cagaagctat tatgcaagct ggtaccagca gaagccagga 120
 caggccccctg tacttgtcat ctatggtaaa aacaaccggc cctcagggat cccagaccga 180
 ttctctgggt ccagctcagg aaacacagct tccttgacca tcaactggggc tcaggcggaa 240
 gatgaggctg actattactg taactcccg gacagcagta gtacccatcg aggggtgttc 300
 ggcggagggg ccaagctgac cgtcctaggt 330

<210> 63
 <211> 110
 <212> PRT
 <213> Human

<400> 63

Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
 1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala
 20 25 30

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
 35 40 45

Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
 50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
 65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Arg Asp Ser Ser Ser Thr His
 85 90 95

Arg Gly Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105 110

<210> 64
 <211> 327
 <212> DNA
 <213> Human

<400> 64
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 acatgccaaag gagacagcct cagaagctat tatgcaagct ggtaccagca gaagccagga 120
 caggccccctg tacttgtcat ctatggtaaa aacaaccggc cctcagggat ccagaccga 180
 ttcgctgggt ccaactcagg aaacacagct tccttgacca tcaactggggc tcaggcggag 240
 gatgaggctg actattactg tagctcccg gacagcagtg gtaaccatgt ggttttcggc 300
 ggagggacca agctgaccgt cctaggt 327

<210> 65
 <211> 109
 <212> PRT
 <213> Human

<400> 65

Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
 1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala

20 25 30
 Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
 35 40 45
 Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ala Gly Ser
 50 55 60
 Asn Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
 65 70 75 80
 Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Arg Asp Ser Ser Gly Asn His
 85 90 95
 Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 66
 <211> 324
 <212> DNA
 <213> Human

<400> 66
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 atcacttgcc gggccagtca gggcattagc aattatttag cctggatatca gcaaaaacca 120
 gggaaagccc ctaagtcct gatctataag gcatctactt tagaaagtgg ggtcccatca 180
 aggttcagtg gcagtggatc tgggacagaa ttcactctca caatcagcag tctgcaacct 240
 gaagattttg caacttacta ctgtcaacag agttacagta cccctcgaac gttcggccaa 300
 gggaccaaag tggatatcaa acgt 324

<210> 67
 <211> 108
 <212> PRT
 <213> Human

<400> 67

Asp Val Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Arg
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys Arg
 100 105

<210> 68
 <211> 84
 <212> DNA
 <213> Recombinant

<400> 68
 cgtggtccct ttgcccaga cgtccacacc actagaatcg tagccactat attccccagt 60
 tcgcgcacag taatacacag ccgt 84

<210> 69
 <211> 23
 <212> DNA
 <213> Recombinant

<400> 69
 agcggataac aatttcacac agg 23

<210> 70
 <211> 21
 <212> DNA
 <213> Recombinant

<400> 70
 gtcgtctttc cagacgtag t 21

<210> 71
 <211> 21
 <212> DNA
 <213> Recombinant

<400> 71
 accgccagag ccacctccgc c 21

<210> 72
 <211> 21
 <212> DNA
 <213> Recombinant

 <400> 72
 ggcggaggtg gctctggcgg t 21

 <210> 73
 <211> 21
 <212> DNA
 <213> Recombinant

 <400> 73
 ctcttctgag atgagttttt g 21

 <210> 74
 <211> 24
 <212> DNA
 <213> Recombinant

 <400> 74
 tgaggagacg gtgaccaggg ttcc 24

 <210> 75
 <211> 68
 <212> DNA
 <213> Recombinant

 <400> 75
 gmaccttggg caccgtctcc tcaggtggag gcggttcagg cggaggtggc agcggcggtg 60
 gcggatcg 68

 <210> 76
 <211> 68
 <212> DNA
 <213> Recombinant

 <400> 76
 ggacaatggg caccgtctct tcaggtggag gcggttcagg cggaggtggc agcggcggtg 60
 gcggatcg 68

 <210> 77
 <211> 68
 <212> DNA
 <213> Recombinant

 <400> 77
 ggaccacggg caccgtctcc tcaggtggag gcggttcagg cggaggtggc agcggcggtg 60

gcggatcg 68

<210> 78
 <211> 56
 <212> DNA
 <213> Recombinant

<400> 78
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<210> 79
 <211> 56
 <212> DNA
 <213> Recombinant

<400> 79
 gtccctcgcaa ctgcggccca gccggccatg gccsaggtcc agctggtrea gtctgg 56

<210> 80
 <211> 56
 <212> DNA
 <213> Recombinant

<400> 80
 gtccctcgcaa ctgcggccca gccggccatg gccagrtca ccttgaagga gtctgg 56

<210> 81
 <211> 56
 <212> DNA
 <213> Recombinant

<400> 81
 gtccctcgcaa ctgcggccca gccggccatg gccsaggtgc agctggtgga gtctgg 56

<210> 82
 <211> 56
 <212> DNA
 <213> Recombinant

<400> 82
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<210> 83
 <211> 56
 <212> DNA
 <213> Recombinant

<400> 83
 gtccctcgcaa ctgcggccca gccggccatg gccaggtgc agctacagca gtgggg 56

<210> 84
 <211> 56
 <212> DNA
 <213> Recombinant

 <400> 84
 gtcctcgcaa ctgcgggcca gccggccatg gccagstgc agctgcagga gtcsgg 56

 <210> 85
 <211> 56
 <212> DNA
 <213> Recombinant

 <400> 85
 gtcctcgcaa ctgcgggcca gccggccatg gccgargtgc agctggtgca gtctgg 56

 <210> 86
 <211> 56
 <212> DNA
 <213> Recombinant

 <400> 86
 gtcctcgcaa ctgcgggcca gccggccatg gccaggtac agctgcagca gtcagg 56

 <210> 87
 <211> 62
 <212> DNA
 <213> Recombinant

 <400> 87
 agctcggtcc tcgcaactgc ggccccctggg gccacagcg aggtgcagct ggtggagtct 60
 gg 62

 <210> 88
 <211> 54
 <212> DNA
 <213> Recombinant

 <400> 88
 cgagtcattc tgcacttggc tccactcacc tgaggagacg gtgaccgtgg tccc 54

 <210> 89
 <211> 30
 <212> DNA
 <213> Recombinant

 <400> 89
 gagaatcggc ctgggattcc tgagggccgg 30

<210> 90
 <211> 53
 <212> DNA
 <213> Recombinant

 <400> 90
 agctcgggtcc tcgcaactgg tgtgcactcc cacgttatac tgactcagga ccc 53

 <210> 91
 <211> 49
 <212> DNA
 <213> Recombinant

 <400> 91
 ggtcctcgca actgcggatc cactcaccta ggacggtcag cttgggtccc 49

 <210> 92
 <211> 54
 <212> DNA
 <213> Recombinant

 <400> 92
 cgagtcattc tgcacttggga tccactcacc tgaggagacg gtgaccaggg tgcc 54

 <210> 93
 <211> 53
 <212> DNA
 <213> Recombinant

 <400> 93
 agctcgggtcc tcgcaactgg tgtgcactcc gatgttgtga tgactcagtc tcc 53

 <210> 94
 <211> 49
 <212> DNA
 <213> Recombinant

 <400> 94
 ggtcctcgca actgcggatc cactcacgtt tgatatccac tttgggtccc 49

 <210> 95
 <211> 53
 <212> DNA
 <213> Recombinant

 <400> 95
 agctcgggtcc tcgcaactgg tgtgcactcc tcgtctgagc tgactcagga ccc 53

 <210> 96
 <211> 30
 <212> DNA

<213> Recombinant

 <400> 96
 ccggccctca ggaatcccag accgattctc 30

 <210> 97
 <211> 30
 <212> DNA
 <213> Recombinant

 <400> 97
 ctaagcttac tgagcacaca ggacctcacc 30

 <210> 98
 <211> 52
 <212> DNA
 <213> Recombinant

 <400> 98
 tttggatatc tctccacagg tgtccactcc gaggtgcagc tggaggagtc tg 52

 <210> 99
 <211> 43
 <212> DNA
 <213> Recombinant

 <400> 99
 atggggccctt ggtggaagct gaagagacgg tgaccagggt gcc 43

 <210> 100
 <211> 59
 <212> DNA
 <213> Recombinant

 <400> 100
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 <210> 101
 <211> 45
 <212> DNA
 <213> Recombinant

 <400> 101
 ttaacgattt cgaacgccac catgggatgg agctgtatca tcttc 45

 <210> 102
 <211> 43
 <212> DNA
 <213> Recombinant

 <400> 102

gtcctaggtg agtagatcta tctgggataa gcatgctgtt ttc

43

<210> 103
<211> 29
<212> DNA
<213> Recombinant

<400> 103
gatctactca cctaggacgg tcagcttgg

29

<210> 104
<211> 22
<212> PRT
<213> Human

<400> 104

Thr Gln His Ser Arg Val Leu Ser Leu Tyr Asn Thr Ile Asn Pro Glu
1 5 10 15

Ala Ser Ala Ser Pro Cys
20

<210> 105
<211> 10
<212> PRT
<213> Human

<400> 105

Arg Gln Leu Ser Leu Gln Gln Arg Met His
1 5 10

<210> 106
<211> 10
<212> PRT
<213> Human

<400> 106

Asp Pro Met Asp Met Val Leu Lys Leu Cys
1 5 10

<210> 107
<211> 10
<212> PRT
<213> Human

<400> 107

Trp Ser Glu Phe Met Arg Gln Ser Ser Leu

1 5 10

<210> 108
<211> 10
<212> PRT
<213> Human

<400> 108

Val Glu Ser Thr Ser Leu Gln Phe Arg Gly
1 5 10

<210> 109
<211> 17
<212> PRT
<213> Synthetic

<400> 109

Cys Gly Gly Thr Gln His Ser Arg Val Leu Ser Leu Tyr Asn Thr Ile
1 5 10 15

Asn

<210> 110
<211> 13
<212> PRT
<213> Synthetic

<400> 110

Gly Pro Glu Ala Ser Arg Pro Pro Lys Leu His Pro Gly
1 5 10

<210> 111
<211> 115
<212> PRT
<213> Human

<400> 111

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Val Trp Val
35 40 45

Ser Arg Ile Asn Ser Asp Gly Ser Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Asn Ser Tyr Val Pro Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 112
<211> 118
<212> PRT
<213> Human

<400> 112

Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Val Arg Asn Asp Gly Ser Asn Thr Tyr Tyr Thr Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Pro Arg Asp Asn Thr Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ser Asp Pro Leu Arg Tyr Pro Ile Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 113
<211> 345
<212> DNA
<213> Human

<400> 113
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tcctgtgcag cctctggatt caccttcagt agctactgga tgcactgggt ccgccaagct 120
ccagggaagg ggctgggtgtg ggtctcacgt attaatagtg atgggagtag cacaagctac 180
gcggactccg tgaagggccg attcaccatc tccagagaca acgccaagaa cacgctgtat 240
ctgcaaatga acagtctgag agccgaggac acggccgtgt attactgtgc aaggggagaat 300
agttatgtgc cttgggggca gggcaccctg gtcaccgtct cctca 345

<210> 114
<211> 354
<212> DNA
<213> Human

<400> 114
caggtgcaac tgcaggagtc ggggggaggc gtggtccagc ctgggggggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt ggctatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcatct gtacggaacg atggaagtaa tacatactac 180
acagactccg tgaagggccg attcaccatc cccagagaca acaccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtac gtctgatcct 300
ttacgctatc ctattgacta ctggggccag ggaaccctgg tcaccgtctc gagt 354

<210> 115
<211> 369
<212> DNA
<213> Human

<400> 115
caggtcacct tgaaggagtc tgggggaagc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgcagtat 240
ctgcaaatga acagcctgag agctgaagac acggcagagt attactgtgc gagaactggg 300

gaatatagtg gccacgcatc tactggagag aacgtctggg gccggggcac cctggtcacc 360
gtctcgagt 369

<210> 116
<211> 123
<212> PRT
<213> Human

<400> 116

Gln Val Thr Leu Lys Glu Ser Gly Gly Ser Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Gln Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Glu Tyr Tyr Cys
85 90 95

Ala Arg Thr Gly Glu Tyr Ser Gly His Ala Ser Thr Gly Glu Asn Val
100 105 110

Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 117
<211> 336
<212> DNA
<213> Human

<400> 117

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tcttggtctg gaggcagatc caacatcggc agtaatactg taaagtggta tcagcagctc 120

ccaggaacgc cccccaaact cctcatctat ggcaatgatc agcggcctc agggatccct 180

gaccgattct ctggctccaa gtctggcacc tcagcctccc tggccatcac tgggggtccag 240
gctgaagacg aggctgacta ttactgccag tcatatgaca gcagcctgag ggggttcgagg 300
gtcttcggaa ctgggaccaa ggtcacccgtc ctaggt 336

<210> 118
<211> 112
<212> PRT
<213> Human

<400> 118

Ser Tyr Val Leu Thr His Pro Pro Ser Val Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Gly Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Pro Pro Lys Leu Leu
35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Val Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser Leu
85 90 95

Arg Gly Ser Arg Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

<210> 119
<211> 381
<212> DNA
<213> Human

<400> 119

caggtacaac ctcagcagtc tgggggagag gtgaagcagc ctggggcctc cgtgaagggt 60

tcctgtaagg cgtctggata caccttcacc agcttctata tgaactgggt gcgacaggcc 120

cccgacaag ggcttgagtg gatgggaata atcagccctc gtggtggtac gacaagttac 180

gcacagaact tccagggcag agtcaccatg accagggaca cgtccacaag cacagtctac 240

atggagctga gcagcctgag atctgaggac acggccgtgt attattgtgc gataattggg 300

ggtactacta tgagagtagg ggggcccgat gcttttgata tctggggcca agggacaatg 360
 gtcaccgtca ccgtctcttc a 381

<210> 120
 <211> 127
 <212> PRT
 <213> Human

<400> 120

Gln Val Gln Pro Gln Gln Ser Gly Gly Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Phe
 20 25 30

Tyr Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Ile Ile Ser Pro Arg Gly Gly Thr Thr Ser Tyr Ala Gln Asn Phe
 50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Ile Ile Gly Gly Thr Thr Met Arg Val Gly Gly Pro Asp Ala Phe
 100 105 110

Asp Ile Trp Gly Gln Gly Thr Met Val Thr Val Thr Val Ser Ser
 115 120 125

<210> 121
 <211> 381
 <212> DNA
 <213> Human

<400> 121

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 tcctgtgcag cgtctggatt caccttcagg aactatggca tgcactgggt ccgccaggct 120
 ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
 ctgcaaatac acagcctgag agtcgaggac acggctgttt attactgtgc gagaagatgg 300
 tatgggtggc gtgggttattg gggccacttc tactcctaca tggacggctg gggcaaaggg 360
 accaaggtca ccgtctcctc a 381

<210> 122
 <211> 127
 <212> PRT
 <213> Human

<400> 122

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asn Tyr
 20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Val Glu Asp Thr Ala Val Tyr Tyr Cys
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Ala Arg Arg Trp Tyr Gly Gly Ser Gly Tyr Trp Gly His Phe Tyr Ser
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Tyr Met Asp Gly Trp Gly Lys Gly Thr Lys Val Thr Val Ser Ser
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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Gly Asp Asp
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Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Leu Leu Ile
 35 40 45

Tyr Gly Thr Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
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Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
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Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Ser Asn Tyr Pro Leu
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